What Is Claimed Is:

1.   A method of radio environment reporting in a remote unit that does not have dedicated traffic channel resources assigned, the method comprising:

5   receiving a first message to perform radio environment reporting on a reverse common signaling channel;

        initializing a pilot list;

        storing the pilot list;

        determining whether the remote unit must send radio environment

10   information;

        when the remote unit must send radio environment information,

                updating the pilot list; and

                transmitting the radio environment information to infrastructure

equipment.

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2.   The method of claim 1 wherein receiving a first message comprises receiving a parameter that controls a duration of radio environment reporting.

3.   The method of claim 2 wherein receiving a parameter comprises

20   receiving a timer value that sets a limit on the amount of time the remote unit is in a mode of providing radio environment information to the infrastructure equipment.

4.   The method of claim 2 wherein receiving a parameter comprises

25   receiving a limit on a number of second messages that the remote unit transmits to the infrastructure equipment.

5.   The method of claim 1 wherein initializing a pilot list comprises initializing a pilot list to a last Active Set on a Traffic Channel just before a

30   dedicated RF connection between the remote unit and the infrastructure equipment is released.

6.   The method of claim 1 wherein initializing a pilot list comprises initializing a pilot list to a current Active Set, wherein the current Active Set is an Active Set on a Traffic Channel at a moment the remote unit receives the first message.

7.   The method of claim 1 wherein determining whether the remote unit must send radio environment information comprises:

determining whether the remote unit performed an idle handoff to a pilot that is not in the pilot list; and

when the remote unit performed an idle handoff to a pilot that is not in the pilot list, determining that the remote unit must send radio environment information.

8.   The method of claim 3 wherein after receiving the first message, the method starts a timer and wherein, when the timer expires, the method discontinues radio environment reporting.

9.   The method of claim 4 wherein after receiving the first message, the method initializes a second message counter to zero, increments the value of the second message counter when a second message is sent or received, and wherein, when a value of the second message counter is equal to the limit on second messages, the method discontinues radio environment reporting.

10.   The method of claim 1 wherein when the remote unit does not need to send radio environment information, the method comprises determining whether an event has occurred to place the remote unit on a traffic channel; and when an event has occurred, discontinuing radio environment reporting.

11.   A method of radio environment reporting in infrastructure equipment comprising:

transmitting a first message to a remote unit, the first message instructing the remote unit to perform radio environment reporting on a reverse common signaling channel;

initializing a pilot list;

determining whether a second message has been received; and

when a second message has been received, storing radio environment information contained in the second message.

12.   The method of claim 11 further comprising:

determining a location of the remote unit using the stored radio environment information; and

sending a traffic channel assignment to the remote unit.

13.   The method of claim 11 wherein transmitting a first message comprises transmitting a parameter that controls a duration of radio environment reporting.

14.   The method of claim 13 wherein transmitting a parameter comprises transmitting a timer value that sets a limit on the amount of time the remote unit is in a mode of providing radio environment information to the infrastructure equipment.

15.   The method of claim 13 wherein transmitting a parameter comprises transmitting a limit on a number of second messages that the remote unit transmits to the infrastructure equipment.

16.   The method of claim 11 wherein initializing a pilot list comprises initializing a pilot list to a last Active Set on a Traffic Channel just before a dedicated RF connection between the remote unit and the infrastructure equipment is released.

17.   The method of claim 11 wherein initializing a pilot list comprises initializing a pilot list to a current Active Set, wherein the current Active Set is an Active Set on a Traffic Channel at a moment the remote unit receives the first message.

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18.   A storage medium having stored thereon a set of instructions which, when loaded into a processor of a remote unit, causes the unit to:

receive a first message to perform radio environment reporting on a
5   reverse common signaling channel;

initialize a pilot list;

store the pilot list;

determine whether the remote unit must send radio environment information;

10   when the remote unit must send radio environment information,

update the pilot list; and

transmit the radio environment information to infrastructure equipment.

19.   A storage medium having stored thereon a set of instructions which, when loaded into a processor of an infrastructure equipment, causes the equipment to:

5   transmit a first message to a remote unit, the first message instructing the remote unit to perform radio environment reporting on a reverse common signaling channel;

initialize a pilot list;

determine whether a second message has been received; and

10   when a second message has been received, store radio environment information contained in the second message.